

formations that represent an unpredicted key Step S150 functions to change the arrangement of the particular regions 113 of the surface to provide additional tactile guidance to the user in providing input. The first type and second type of tactilely distinguishable formations are preferably distinguishable from each other such that the user can substantially determine a tactilely distinguishable formation of a first type from a second type without looking. The first type and the second type of tactilely distinguishable formations may be distinguishable in one of several variations. In a first variation, the first type of tactilely distinguishable formation is stiffer than the second type of tactilely distinguishable formation. For example, the pressure of the fluid within the cavities 125 corresponding to particular regions that represent unpredicted keys may be of a lower pressure than the fluid within the cavities 125 corresponding to particular regions that represent predicted keys. In a second variation, the first type of tactilely distinguishable formation is of a first shape and the second type of tactilely distinguishable formation is of a second shape. For example, the first type of tactilely distinguishable formation may be of a height that is taller than the second type of tactilely distinguishable formation, as shown in FIG. 6, as the height difference between cavities 125a and 125c and cavity 125b. Alternatively, the height of the second type of tactilely distinguishable formation may be substantially zero relative to the surface, as shown in FIG. 7. In this variation, the second type of tactilely distinguishable formation may be alternatively described as substantially tactilely indistinguishable from the surface 115 and the first type of tactilely distinguishable formation may be alternatively described as substantially tactilely distinguishable from the surface 115. Alternatively, the second variation of the first and second types of tactilely distinguishable formations may include a first type that is of a square shape while a second type that is of a dome shape. Yet alternatively, the second variation of the first and second types of tactilely distinguishable formations may include a first type that is of a first diameter and/or width and a second type that is of a smaller diameter and/or width. The first and second types of tactilely distinguishable formations may also be a combination of the above variations. For example, the first type may be of a first shape and a first height while the second type may be of a second shape and a second height. In a third variation, the first type of tactilely distinguishable formation is deformed in a first sequence and the second type of tactilely distinguishable formation is deformed in a second sequence. For example, the first type of tactilely distinguishable formation may be deformed into a shape in a substantially constant sequence (e.g., the shape of the tactilely distinguishable formation does not change substantially) and the second type of tactilely distinguishable formation may be deformed in a substantially pulsating sequence (e.g., the shape of the tactilely distinguishable formation changes cyclically). However, any other type of deformation sequence may be used. However, any other suitable types of tactilely distinguishable formations may be used to distinguish the first type from the second type.

**[0028]** The transition between the first and second types of tactilely distinguishable formations may also be one of several variations. In a first variation, a particular region that corresponds to a previously predicted key and is deformed into the first type of tactilely distinguishable formation may be transitioned into the second type of tactilely distinguishable formation (as shown for cavity 125b in FIG. 6) when the key corresponding to the particular region is an unpredicted

key. In a second variation, a particular region that corresponds to a previously unpredicted key and is deformed into the second type of tactilely distinguishable formation may be transitioned into the first type of tactilely distinguishable formation when the key corresponding to the particular region is a predicted key. The first and second variations may be combined to transition between predicted and unpredicted keys. In a usage scenario, when the keyboard is actuated, the user has not provided an input using the keyboard and, by default, all keys may be a predicted key. As a result, each key of the keyboard is deformed into a tactilely distinguishable formation of the first type. After the user provides a first key input, a subsequent key prediction is made and the previously raised keys that are now unpredicted keys are deformed into the second type of tactilely distinguishable formation. After a second key input is provided by the user, a second subsequent key is predicted and the arrangement of the particular regions is again changed such that previously unpredicted keys in the second type of tactilely distinguishable formation may be transitioned into predicted keys in the first type of tactilely distinguishable formation and previously predicted keys in the first type of tactilely distinguishable formation may be transitioned into unpredicted keys in the second type of tactilely distinguishable formation. The transition of particular regions from the first type to the second type of tactilely distinguishable formations may occur concurrently with the transition of particular regions from the second type to the first type of tactilely distinguishable formations to decrease the time of transition. However, any other timing of the transitions may be used.

**[0029]** In a third variation of transition, each tactilely distinguishable formation may return to an original state (for example, the flat surface 115 as shown in FIG. 5) before re-deforming into the desired first and second types of tactilely distinguishable formations. This may decrease the complexity of the system. For example, the displacement device 130 is first removing fluid from the cavities 125 and then displacing fluid back into the cavities 125 as opposed to removing fluid from some cavities 125 while displacing fluid into other cavities 125. Alternatively, in a fourth variation of transition, particular regions that are to transition from the first type of tactilely distinguishable formation into the second type may be transitioned first and then those particular regions that are to transition from the second type of tactilely distinguishable formation into the first type may be transitioned second (or in reverse order) such that fluid is moving in generally one direction at one time. However, any other transition type may be used.

**[0030]** The actuation of the deformation of each particular region 113 of the surface 115 may include implementation of a fluid network and/or valves, such as that described in U.S. application Ser. No. 12/652,704 filed on 5 Jan. 2010 and entitled "User Interface System," which is incorporated in its entirety by this reference, that allow the cavities 125 to be expanded substantially individually. In a first example, in the variation where the second type of tactilely distinguishable formation is of a smaller volume than the first type of tactilely distinguishable formation, the fluid network may function to displace fluid from those particular regions transitioning from the first type of tactilely distinguishable formation to the second type to those particular regions transitioning from the second type of tactilely distinguishable formation to the first type. Alternatively, in a second example, the fluid network may function to displace fluid from those particular regions